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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/756,990	01/12/2004	Jeffrey T. Cheung	02RS070US8	3728
23935	7590	06/28/2005	EXAMINER	
KOPPEL, JACOBS, PATRICK & HEYBL 555 ST. CHARLES DRIVE SUITE 107 THOUSAND OAKS, CA 91360			CUEVAS, PEDRO J	
			ART UNIT	PAPER NUMBER
			2834	

DATE MAILED: 06/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/756,990	<b>Applicant(s)</b> CHEUNG ET AL.	
	<b>Examiner</b> Pedro J. Cuevas	<b>Art Unit</b> 2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 January 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-53 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 45-52 is/are allowed.
- 6) ☒ Claim(s) 1-5 and 53 is/are rejected.
- 7) ☒ Claim(s) 6-44 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>1/12/04</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5 and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,818,132 A to Konotchick in view of U.S. Patent No. 4,645,960 A to Hoffman.

Konotchick disclose the construction of a linear motion electric power generator comprising:

- a movable structure (24);
- a coil (5, 6);
- a magnet (2);
- electronic circuitry (46) which is connected to be powered by said electrical current;
- an energy storage system (78) connected to power said electronic circuitry, said energy storage system can be a rechargeable battery (column 8, lines 1-4); and
- an interface circuit (Figure 13B) connected to receive said electrical current and to provide energy for storage in said energy storage system, and said interface circuit provides current to recharge said rechargeable battery;

said coil and said magnet arranged such that said magnet and said coil move with respect to each other when said structure is motion such that an electrical current is produced in said coil.

However, it fails to disclose a low-friction ferro-fluidic bearing in contact with and supporting one of said coil or magnet.

Hoffman teach the construction of a ferro-fluidic bearing for the purpose of allowing rotational movement between two adjacent cylindrical surfaces, the first cylindrical surface supporting the bearings, and the second cylindrical surface being supported by the bearings.

It would have been obvious to one skilled in the art at the time the invention was made to adapt the ferro-fluidic bearing disclosed by Hoffman on the linear motion electric power generator configuration disclosed by Konotchick (Figures 11A and 11B) for the purpose of allowing rotational movement between two adjacent cylindrical surfaces.

3. With regards to claim 53, Konotchick discloses a method of assembling a linear motion electric power generator comprising the steps of:

affixing magnets to a template in positions which mirror said prescribed positions, each of said affixed magnets having a polarity opposite to that of the power source magnet it mirrors;

placing said template below said tube;

inserting said magnets into said tube;

adding said ferro-fluidic bearing to said tube; and

causing said magnets to move within said tube such that they align over their respective template magnets.

*Allowable Subject Matter*

4. Claims 6-44 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. The following is a statement of reasons for the indication of allowable subject matter.

The prior art of record, taken alone or in combination, does not teaches the construction of a power source as described on:

dependent claim 6, comprising: a wireless transmitter which transmits a signal that varies with the output of said sensor;

dependent claim 8, comprising: a data storage device which stores data that varies with the output of said sensor;

dependent claim 9, comprising: a wireless transceiver which transmits a signal which varies with the output of said sensor;

dependent claim 10, comprising: an air pressure sensor; and

dependent claims 13 and 38, comprising: a closed nonmagnetic tube, said coil affixed to the exterior of said tube, said magnet and bearing enclosed within said tube such that said magnet is in contact with and supported by said bearing and is free to move within said tube such that said magnet and said coil move with respect to each other when said movable structure is in motion such that an electrical current is produced in said coil.

Dependent claims 7, 11, 12, 14-37, and 39-44 are considered allowable subject matter by their respective dependence on dependent claims 6, 8-10, 13, and 38.

6. Claims 45-52 are allowed.

***Reasons for Allowance***

7. The following is an examiner's statement of reasons for allowance.

The prior art of record, taken alone or in combination, does not teaches the construction of a wireless tire pressure monitoring system as described on independent claim 45, comprising:

- an autonomous power source;
- an air pressure sensor for sensing the air pressure within a tire mounted on said wheel;
- a data storage and/or wireless transmitter circuit which stores and/or transmits data which varies with said sensor output;
- a rechargeable battery connected to power said circuit; and
- an interface circuit connected to receive said electrical current and to provide energy to recharge said rechargeable battery.

Dependent claims 46-52 are considered allowable by their respective dependence on allowed independent claim 45.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

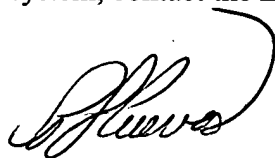
8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892.

Art Unit: 2834

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pedro J. Cuevas whose telephone number is (571) 272-2021. The examiner can normally be reached on M-F from 8:30 - 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on (571) 272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Pedro J. Cuevas  
June 23, 2005



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